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(most arbitrary limitation of all) to non-concidental preservatives not naturally present in the food.

In Fig. 2 are shown several possible forms for the preservative curve, alternate to the form given in Dr. Wiley's diagram. Two of these, *ADE* and *FGE*, represent the preservative as beneficial in small quantities and injurious in larger. The former represents the preservative as essential in some quantity; in other words, it would make the difference between food and preservative one of quantity merely, not one of kind. A curve of this kind is conceivable for a preservative such as benzoic acid or salicylic acid, both of which are normally present in minute quantities in many fruits.

The writer does not mean to assert that the curves for any preservatives have been shown to have the forms represented in Fig. 2. What he does wish to emphasize is that there is nothing in the mathematics of the case requiring them to have the form represented in Dr. Wiley's diagram, and therefore no justification for the argument that chemically preserved foods are injurious because the preservatives produce injurious effects when administered in quantities larger than would be contained in chemically preserved foods.

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#### THE CHALK FORMATIONS OF NORTHEAST TEXAS

In the *American Journal of Science* for May, 1909, Article XXIX. is entitled "The Chalk Formations of Northeast Texas," by Mr. C. H. Gordon, the substance of which is to prove that the two formations of Texas, originally defined by me as the Austin chalk and the Anona chalk, are identical.

If such is the case, and I have long believed that it might be so, Mr. Gordon would do a service to science in proving the fact. I think, however, that in this paper where the author has entered into the question of record, his statements are neither complete nor accurate.

I spent many years of my life in endeavoring to define the many Cretaceous formations

of my state, and to disentangle them from previous confusion. The various contributions thereon were progressive, and after the date of the last paper cited (1893) by Mr. Gordon as coming from me and before I retired from the subject, I learned and published much. A final work was published in which the previous results were summarized and errors corrected. Furthermore, the uncertainty as to the position of the Anona chalk was clearly stated. It certainly would seem a matter of justice for Mr. Gordon, in citing my views, to cite the latest published ones.

In the final work alluded to I clearly stated on page 341:

That the writer has considered this chalk (Anona) to represent a higher horizon than the Austin chalk, but its exact relationship is a subject of future determination.

Also on page 337 I note the difficulty "owing to the lack of (continuous) outcropping sections" of separating the Austin chalk from the Navarre formations in the Red River district.

Furthermore, in discussing the correlation south of Red River of the various members of the Upper Cretaceous in northeastern Texas, I confessed my "utter inability, notwithstanding the years of study, to correlate the various outcrops of these beds, nor can it be done by minute paleontologic research, such as he (the author) has not had opportunity to undertake," and such as Mr. Gordon confesses he has not undertaken.

Mr. Gordon does not even mention the paper above quoted, which was my last work on the Cretaceous and which is entitled "Geography and Geology of the Black and Grand Prairies, Texas, Twenty-first Annual Report of the United States Geological Survey," Washington, D. C., 1902.

So far as the writer is concerned, it is a pleasure to see other workers continue the researches in the geology of Texas, where there are hundreds of problems and details still unsolved and unrecorded, but I do think it fair that if an author endeavors to present a record of previous researches, and opinions, that they should be cited fairly. The score or

more of formation names of my own invention utilized in Mr. Gordon's article without credit, at least, attest that the studies of the Texas Cretaceous by me left some impress upon the subject.

ROBT. T. HILL

#### THE DAYLIGHT SAVING BILL

TO THE EDITOR OF SCIENCE: On page 453 of SCIENCE for March 19, 1909, a reference to the "Daylight Saving Bill" is introduced by the statement: "It is said that the Ohio state legislature once passed a bill establishing the value of  $\pi$  to accord with the views of some circle squarer."

A declaration beginning "it is said" is usually safe against correction, because anything may be "said," but in this instance I am moved to say that the laurel wreath has been put upon the wrong brow.

It was in Indiana, nearly twenty years ago, that such a bill was introduced by a member of the state legislature, but it was "laughed out of court," after making some progress in the lower house, as such measures often do where not much attention is given to the real meaning of every bill put upon the calendar. As far as I know, the legislature of the state of Ohio has not yet concerned itself with the ratio of the circumference of a circle to its diameter. After all, a good deal may be said for a state legislature that has devoted even a brief hour to an intelligent consideration of the value of  $\pi$ , and a careful investigation might show that the ability to do this is by no means restricted to regions east of the Allegheny Mountains. It is a well-known fact that of the Presidents of the United States serving within the last half century (barring one recently retired, who forms a class by himself), the two who were most appreciative of the work of scientific men and most capable *by reason of their own knowledge and experience*, of determining its value, were chosen, one from Ohio and one from Indiana, while that one least so was from the great Empire State. The record of the "middle west" in this respect is sure to be maintained during the administration just now beginning.

It is a serious mistake to put the author of the daylight saving bill in the same class with the circle squarers. The measure has been given much attention by all of the best English newspapers and periodicals during the past year and, with few exceptions, the criticisms have been most favorable. The passage of the bill has been urged by a very large number of eminent Englishmen, including many of the most distinguished men of science, and the advantages its adoption would secure are so many that it seems tolerably certain to receive the approval of parliament in the not distant future.

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#### LIBRARY BOOK-STACKS WITHOUT DAYLIGHT

TO THE EDITOR OF SCIENCE: I was greatly interested in the short abstract of Mr. Bernard R. Green's address on "Library Book-stacks without Daylight," which appears in SCIENCE for April 9, 1909, p. 592.

I remember very well probably five or six years ago a conversation that I had with Mr. Green in connection with the new library building of the College of Physicians of Philadelphia, when I made the following suggestions, which I would like to put on record for the consideration of others.

It seemed to me that the ideal book-stack should be built with solid brick walls without any openings of any kind, and that even in the roof there should be no skylight and no openings except for the chimneys and ventilation. Artificial light could be turned on and off at will and would provide amply and inexpensively for the light. Forced ventilation would keep the air pure. This method of construction would have the following advantages:

1. A wall of solid brick is much cheaper than one with openings for windows, which must be filled with expensive wire glass, to which must be added the cost of iron shutters, with some automatic device for their closure.
2. It is a much better protection against fire.
3. It excludes all dust.
4. The book-stacks can be placed in the